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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,024	03/30/2001	Toshihiko Tsuji	684.3159	5544

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EXAMINER

FULLER, RODNEY EVAN

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/821,024		TSUJI, TOSHIHIKO	
	Examiner		Art Unit	
	Rodney E Fuller		2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 10 February 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Remarks***

In response to applicant's Amendment, dated February 10, 2003, the examiner acknowledges the amendments to claim 1, 7, 8, 10 and 11. Claims 1-11 are pending.

The amendment to the Specification addressed all of the Objections related to the Specification set forth in the Office Action mailed September 9, 2002. However, the amendment to the Specification has not been entered. Thus, the Objections to the Specification are repeated below. The objections will be withdrawn when the requested substitute specification (see below) is received.

The examiner acknowledges the corrections of the objections related to the Drawings set forth in the Office Action mailed September 9, 2002.

Regarding the 35 U.S.C. 102(e) rejection of claims 1-6 and 8-11 are rejected under as being anticipated by Shiraishi (US 6,211,944), the applicant amended the claims and makes the argument that in Shiraishi "a diffractive optical element 12 receives light having been emitted from a focusing position of a lens array 7 and having been collimated by means of lens 11." Further, the applicant makes the argument that "this means that, in the device in Shiraishi patent, the diffractive optical element is not provided either at or adjacent to a position where the light is focused by the lens array 7, or at or adjacent to a position which is optically conjugate with the focus position." (Related to amended language of claims). The examiner has considered the applicant's arguments in light of the amended claims (along with re-reviewing the disclosure) and withdraws the rejection.

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Regarding the 35 U.S.C. 103(a) rejection of claim 7 as being unpatentable over Shiraishi (US 6,211,944) in view of Orr, et al. (US 6,233,071), the examiner likewise withdraws the rejection.

While the amended claims overcome the rejections set forth in the last Office Action, there is insufficient support for the new claim language. (See *Claim Rejections - 35 USC § 112* section below).

Specification

1. A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because the number and/or nature of the amendments render it difficult to consider the application or to arrange the papers for printing or copying, 37 CFR 1.125.

A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and must be accompanied by: 1) a statement that the substitute specification contains no new matter; and 2) a marked-up copy showing the amendments to be made via the substitute specification relative to the specification at the time the substitute specification is filed.

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because of the phrase "Disclosed is..." which can be implied. Correction is required. See MPEP § 608.01(b).

4. The Specification is objected to because of the following informalities:

- a. On page 3, line 19, the reference "17" appears to be a typographical error and should be "107."
- b. On page 10, line 5, the word "mark" appears to be a typographical error and should be "mask."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The applicant amended independent claims 1, 10, and 11 to include the limitation of "*an emission angle conserving optical unit having one of a lens and a lens array, for*

receiving light form the light source.” (Emphasis added) However, the specification (page 11, lines 15-17 and Figure 2A) sets forth that “the emission angle conserving optical unit 4 comprises an aperture 21 and a lens system 22. A lens without the associated aperture as shown in Figure 2A would not perform as “an emission angle conserving optical unit.”

The applicant, also, amended independent claims 1, 10 and 11 to include the limitation “*wherein said diffractive optical element is disposed one of (i) at or adjacent to a position where the light from said emission angle conserving unit is focused by the one of the lens and the lens array, and (ii) at a position which is optically conjugate with a position at which the light is focused by the one of the lens and the lens array.*”

However, the specification (page 13, lines 1-3 and Figure 1) set forth that “the diffractive optical element 10 is disposed at or adjacent a position which is optically conjugate with the light exit surface of the optical unit 6.” (Emphasis added) Hence, the specification does not support the limitation wherein the diffractive optical element is disposed at or adjacent to a position (or conjugate position) where the light from the emission angle conserving unit (aperture-lens or fly’s-eye-lens) is focused.

Claims 2-9 depend from claim 1 and therefore include the deficiencies of claim 1.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Knop (US 4,255,019).

Although the examiner maintains that there is not adequate support for the claim language (See *35 USC § 112* section above), Knop discloses structure set forth in the claims.

Knop discloses “an emission conserving optical unit having one of a lens (Fig. 1, ref.# 100) and a lens array, for receiving light from the light source; and a diffractive optical element (Fig. 1, ref.# 108) for diffracting light from said emission angle conserving optical unit to produce a desired light intensity distribution on predetermined plane, wherein said diffractive optical element is disposed one of (i) at or adjacent to a position where the light from said emission angle conserving unit is focused by the one of the lens and the lens array, and (ii) at a position which is optically conjugate with a position at which the light is focused by the one of the lens and the lens array.”

(Underline emphasis added)

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Kiemle (US 3,802,762), Shiraishi (US 5,638,211) and Rolson (US 6,057,065) discloses wherein a diffractive element is located at the position where light from a lens array (or lens associated with an aperture) is focused.

Kirk, et al. (US 5,663,785) discloses wherein a diffractive optical element is disposed at or adjacent a position which is optically conjugate with the light exit surface of a lens array (or lens associated with an aperture).

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

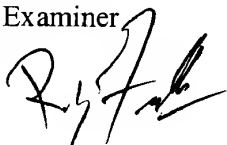
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney Fuller whose telephone number is (703) 306-5641. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams, can be reached on (703) 308-2847.

Rodney Fuller
Primary Examiner

A handwritten signature in black ink, appearing to read 'R. Fuller', is written over the printed name of the primary examiner.

May 1, 2003